STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

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| In the Matter of the Petition of the CITY OF LOMPOC for Review of Order No. 80-03 (NPDES Permit No. CA 0048127), California Regional Water Quality Control Board, Central Coast Region. Our File No. A-265. | Order No. WQ 81-5 |

BY THE BOARD:

On February 8, 1980, the California Regional Water Quality Control Board, Central Coast Region (Regional Board) adopted waste discharge requirements in Order No. 80-03 (NPDES Permit No. CA 0048127) for the City of Lompoc (petitioner or City). The waste discharge requirements establish effluent limitations for the petitioner's regional wastewater facility for total dissolved solids (TDS), sodium and chloride.

On March 12, 1980, the State Water Resources Control Board (State Board) received a petition from the City seeking review of the requirements. The petition was not received within the 30-day limitation period set forth in Water Code Section 13320(a) for seeking State Board review of a Regional Board action. We will nonetheless review the petition on our own motion, as we find the issues presented to be significant. (Water Code Section 13320(a).)

## I. BACKGROUND

The City of Lompoc discharges an average of 3.4 mgd of secondarily treated domestic wastewater to the Santa Ynez River

channel. The Santa Ynez River is dry during most of the year, and the discharge percolates into the ground. There are two identified aquifers in the Lompoc area, an upper and a lower aquifer. The discharge is to the upper aquifer. We do not have information on whether continuity exists between the two aquifers.

The Water Quality Control Plan Report for the Central Coastal Basin (Basin Plan) contains groundwater objectives for the Lompoc area. The median objectives for TDS, sodium and chloride in the Basin Plan are:

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| TDS | 1500 mg/1 |
| Sodium | 250 mg/1 |
| Chloride | 350 mg/1 |

The waste discharge requirements establish the following effluent limitations for those constituents:

| | Mean | Maximum |
|---|---|---|
| TDS | Water Supply + 325 mg/1 | 1500 mg/1 |
| Sodium | Water Supply + 75 mg/1 | 350 mg/1 |
| Chloride | Water Supply + 75 mg/1 | 300 mg/1 |

These limitations are identical to the limitations contained in the petitioner's previous permit. Regional Board Order No. 75-04 (NPDES Permit No. CA 0048127).

The petitioner requests that the effluent limitations be relaxed to the following amounts:

| | Mean | Maximum |
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| TDS | 1200 | 1400 |
| Sodium | 325 | 375 |
| Chloride | 250 | 350 |

These amounts are identical to the limitations suggested to the Regional Board by its staff.

## II. CONTENTIONS AND FINDINGS

1. Contention: The petitioner contends that the Legislature, in Health and Safety Code Sections 4045-4049, has enacted a comprehensive regulatory system for the use of water softeners, and that the City is preempted from establishing more stringent requirements including a prohibition on the use of water softeners. The petitioner further argues that even if it were to require greater efficiency of water softeners it could not meet the effluent limitations.

Finding: It is, of course, up to the discharger to decide the manner in which compliance with requirements will be achieved. There is not sufficient evidence in the record to permit a conclusion that the only available means to comply with the limitations is to prohibit the use of water softeners. Even assuming such a prohibition would be necessary, we do not agree that the petitioner is without authority to regulate the use of water softeners.

Health and Safety Code Sections 4045-4049 establish certain salt efficiency standards for water softeners.[1/] This legislation prohibits the installation of residential water softening or conditioning appliances after January 1, 1980, unless either the appliance is regenerated at a nonresidential facility or there is certification that the appliance is meeting specified salt efficiency requirements and that certain water conservation devices have been installed.

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1. For a full discussion of the use of water softeners and how they increase the levels of TDS, sodium and chloride in domestic sewage, see State Board Order No. WQ 79-14.

The legislation also provides, under certain circumstances, for certification that water softening appliances already in place at residential dwellings as of January 1, 1980 meet specified salt efficiency requirements and that certain water conservation devices be installed. The requirements regarding existing appliances become effective only in areas served by sewage treatment facilities which have been limited with regard to salt loading pursuant to the Porter-Cologne Water Quality Control Act, and only where the Regional Board makes a finding that the control of residential salinity input is necessary to provide compliance with the salt loading limitations. Where certification is required for existing appliances, there is a four-year grace period after the Regional Board makes the necessary finding before the certification requirement goes into effect.

The legislative history of Health and Safety Code Sections 4045-4049 shows that in enacting this legislation there was no intent to preempt local agencies from regulating water softeners. This Board was actively involved in the adoption of this legislation. We played a key role in various changes that were made to the bill before it was signed into law. A fair reading of the statute does not suggest that it preempts local agencies from placing additional limitations on the use of water softeners. Extrinsic aids also support this conclusion, and are properly used to explain the meaning and purpose of legislation. (58 Cal.Jur.2d, Statutes Section 160.)

The Board's legislative files indicate the following events occurred as the bill was considered and finally adopted.

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Based on the above discussion, we reject the petitioner's assertion that it cannot legally place restrictions on the use of water softeners.

2. Contention: The petitioner seeks modifications in the effluent limitations provided for in the waste discharge requirements.

Before discussing the numerical limitations set forth in the waste discharge requirements and those proposed by the petitioner, we shall set forth the general principles which are applicable in establishing limitations to prevent salt loading problems. These principles are distilled from two of our previous orders, State Board Orders Nos. 73-4 and WQ 79-14, and from our experience in the application of those decisions to various areas within the State. The principles vary depending on whether or not the presence of the constituent in the receiving water is already at or exceeding the level provided for in the Basin Plan's water quality objectives.

Where the constituent in a groundwater basin is already at or exceeding the water quality objective, the Regional Board must set limitations no higher than the objectives set forth in the Basin Plan:[2/]

1. Exceptions to this rule may be granted where it can be shown that a higher discharge limitation is appropriate due to system mixing or removal of the constituent through percolation through the ground to the aquifer.

2. The Regional Board should set limitations more stringent than the Basin Plan objectives if it can be shown that those limitations can be met by using "best efforts". The "best efforts" approach involves (a) making a showing that the constituent is in need of control; and (b) establishing limitations which the

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2. Where compliance with the limitations cannot be achieved by reasonable efforts, review of the appropriateness of the water quality objective may be required.

discharger can be expected to achieve using reasonable control methods. Factors which should be included in the "best efforts" analysis include: (a) The water supply available to the discharger; (b) The past effluent quality of the discharger; (c) The effluent quality achieved by other similarly situated dischargers; (d) The good faith efforts of the discharger to limit the discharge of the constituent; and (e) The measures necessary to achieve compliance.

Where the receiving water is of better quality than the Basin Plan objective, the Regional Board may set limitations which are more or less stringent than the objective.[3/]

1. The Regional Board may set limitations less stringent than the water quality objective by adding an increment to the objective to reflect reasonable use of the remaining assimilative capacity. The increment should consider use of the capacity by the discharger and other dischargers. Of greatest importance, however, is that the Regional Board should ensure that the cumulative impact of all dischargers does not result in a situation where the water quality objectives set for the basin are exceeded.

2. After establishing the increment providing for reasonable use, the Regional Board should then apply the "best efforts" analysis to determine if a more stringent limitation is appropriate.

It is the belief of this Board that implementation of the principles described above will result in a reduction of the serious salt balance problems that plague many areas of the State.

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3. Adoption of limitations in this situation must be consistent with the State Board's nondegradation policy, which states circumstances under which receiving waters should remain of higher quality than water quality objectives.

The reduction will be accomplished in an equitable manner, through the adoption of limitations for which compliance can be reasonably expected.

We now turn to the petitioner's contentions. In establishing effluent limitations for the various constituents, the Regional Board set mean limitations and maximum limitations. The mean limitations consist of an increment over the water supply and the maximum limitations consist of numerical concentrations. The petitioner proposed mean and maximum limitations which are both numerical concentrations. In analyzing the contentions herein, we have calculated the concentration for the water supply and therefore considered only numerical concentrations for the various proposed limitations. Since the limitations which we set forth herein are all presented in terms of their numerical concentrations, we find no need to establish maximum limitations. Because groundwater affords slow mixing of constituents and because one-time discharges of larger concentrations of salts to groundwater do not pose dangers to fish or wildlife, a mean numerical limitation will provide sufficient protection. We therefore conclude that the maximum limitations for the constituents TDS, sodium and chloride should be deleted from the requirements. We note, however, that should the quality of the water supply change significantly, an amendment of the requirements might be necessary.

A. Total Dissolved Solids

As described above, the water quality objective contained in the Basin Plan for TDS is 1500 mg/l. The waste discharge

requirements adopted by the Regional Board establish a mean effluent limitation of the water supply plus 325 mg/1. The petitioner requests a mean limitation of 1200 mg/1. The existing water supply for the areas using the wastewater treatment facility is calculated to have a mean TDS level of 773 mg/1.[4/] Therefore, the mean limitation permitted under the requirements is 1098 mg/1.

The first step in our analysis is to determine whether the level of TDS in the upper aquifer, the receiving water for the discharge, is in excess of the water quality objective. The upper aquifer contains 2660 mg/1 of TDS, well above the water quality objective of 1500 mg/1. There is no evidence of assimilative capacity due to system mixing or removal of the constituent through percolation through the ground to the aquifer. Therefore, the limitation can be set no higher than the water quality objective of 1500 mg/1.

We now turn to the question of whether the limitations can be set at a more stringent standard to require "best efforts" by the petitioner. The record before us establishes the need to control the discharge of TDS in the basin. We next consider what limitation will reflect "best efforts" by the City. The water supply available to the City has a TDS level of 773 mg/1, significantly below the water quality objective. The effluent currently discharged by the City has a mean TDS level of 1090 mg/1. This level is within the limitation proposed by the Regional Board.

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4. Letter from City of Lompoc to the Regional Board, dated January 27, 1981. At the time the requirements were adopted, the Regional Board calculated the water supply to have 750 mg/1 TDS. Item 4A of Regional Board Staff Report at Regional Board meeting on February 8, 1980, Tables 1 and 2.

In reviewing the good faith efforts on the part of the City, we note that evidence in the record discloses that by eliminating industrial sources of salts to the sewer system in 1975, the City accomplished a reduction of 72,000 pounds of salts per month. The result was a lowering of the discharge concentration from 2000 mg/l to the current level. In addition, pursuant to a PUC tariff rule, the Park Water Company is regulating the use of home water softeners in Vandenburg Village. The rule, in effect since October 1977, prohibits the installation of new units and provides that all discharges from home units which discharge to the sewer system are prohibited after July 1, 1982. Since the discharge to the treatment plant from Vandenburg Village is a major contributor to the salt-loading problem, implementation of this rule presumably has been a factor in lessening the concentration of salts in the City's discharge and will continue to alleviate the problem.

In considering the additional measures, if any, which the City should be required to undertake under the "best efforts" analysis, we find it appropriate to consider Health and Safety Code Section 4048, discussed above. That section requires that newly installed residential onsite water softeners must be set at a salt efficiency rating of no less than 2850 grains of hardness removed per pound of salt used in regeneration. This requirement should lead to a further reduction in the salts discharged.

Given the factors discussed--the water supply available to the City, the current effluent quality of the City's discharge, the good faith efforts by the City and the measures necessary to

comply with the requirement--we conclude that the Regional Board acted properly in setting a mean TDS limitation of the water supply plus 325 mg/l, or 1098 mg/l. In reaching this conclusion, we note that while the level of TDS in the water supply is significantly below the water quality objective for TDS, the City has taken steps to reduce greatly its discharge of TDS. The level of discharge currently, approximately 1090 mg/l, is within the limitation set by the Regional Board. We note further that while the Regional Board could make a finding of necessity for imposing stricter standards on existing water softeners in order to reduce further the problem of salt loading in the basin, the problem is not so drastic as to require the immediate adjustment of all existing softeners. We will, therefore, approve this portion of the requirements with one modification. To ensure the continued quality of the discharge, we shall require that the mean limitation for TDS be expressed as 1100 mg/l, rather than the water supply plus 325 mg/l.

The Regional Board may, of course, consider the propriety of making a finding, as set forth in Health and Safety Code Section 4048, that further reduction of salt input to the basin is required. Upon making such a finding, it would be appropriate to amend the requirements to establish a more stringent TDS limitation after an appropriate implementation period.

B. Sodium

The water quality objective in the Basin Plan for sodium is 250 mg/l. The waste discharge requirements adopted by the Regional Board establish a mean effluent limitation of the water

supply plus 75 mg/1. The petitioner requests a mean limitation of 325 mg/1. The Regional Board has calculated that the existing water supply for the areas using the wastewater treatment facility has a mean sodium concentration of 154 mg/1.[5/] The mean limitation established by the requirements is therefore 229 mg/1 sodium.

The concentration of sodium in the upper aquifer, which is the receiving water for the discharge, is 270 mg/1. Thus, the water quality objective of 250 mg/1 for sodium is being exceeded. There is also no evidence in the record of assimilative capacity due to system mixing or removal of the constituent through percolation. The water quality objective of 250 mg/1 therefore establishes the maximum effluent limitation which should be applied to sodium. In considering the available evidence, however, it appears that only by extreme measures could the City meet even this maximum limitation. The current discharge level from the treatment plant has a mean concentration of 283 mg/1 sodium.[6/] Only by implementation of a ban on the use of home softeners could the water quality objective be met, according to the evidence before us.[7/]

We are concerned with the issue of whether the efforts necessary to implement the sodium objective are out of proportion to the benefits obtained thereby. Because of the scarcity of evidence in the record regarding other control methods which might be available to the City for the discharge of sodium, the questionable

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5. Item 4A of the Regional Board Staff Report at Regional Board meeting on February 8, 1980, Tables 1 and 2.

6. Letter from City of Lompoc to the Regional Board, dated January 27, 1981.

7. Our calculations indicate that a total ban on the use of home water softeners would result in an effluent concentration of 235 mg/1 sodium.

need for a water quality objective which is so much more stringent than the current discharge rate, and the drastic measure it appears would be required to meet compliance, we remand this portion of the requirements to the Regional Board. In its review, the Regional Board should evaluate the continuing need for the water quality objective for sodium set forth in the Basin Plan for the Lompoc area. The Regional Board should then undertake the analysis described herein, at pages 6-7, to determine whether the effluent limitations contained in the waste discharge requirements, or some other limitations, are appropriate. We wish to make it clear that we are not rejecting the effluent limitations which the Regional Board set for sodium. Rather, we are requesting that more study be made of the matter. In the interim, the Basin Plan objective of 250 mg/l sodium shall apply.

C. Chloride

The water quality objective contained in the Basin Plan for chloride is 350 mg/l. The waste discharge requirements adopted by the Regional Board set a mean effluent limitation at the water supply plus 75 mg/l. The petitioner requests a mean limitation of 250 mg/l. The existing water supply for the areas using the treatment plant is calculated to have a mean sodium concentration of 118 mg/l.[8/] Therefore, the mean limitation permitted under the requirements is 193 mg/l chloride.

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8. Letter from City of Lompoc to the Regional Board, dated January 27, 1981. At the time the requirements were adopted, the Regional Board calculated the water supply to have 114 mg/l chloride. Item 4A of Regional Board Staff Report at Regional Board meeting on February 8, 1980, Tables 1 and 2.

The concentration of chloride in the receiving water, the upper aquifer, is 320 mg/l. This level is below the water quality objective of 350 mg/l called for in the Basin Plan. Therefore, the Regional Board could have set limitations less stringent than the Basin Plan objective of 350 mg/l, to allow for reasonable use of the remaining assimilative capacity. The record does not indicate whether the Regional Board considered a less stringent limitation allowing for reasonable use. However, since a salt loading problem does exist in the basin, and because the City has been able to achieve a current discharge rate which is below the water quality objective, we find no error in the Regional Board's failure to consider this factor.

Even where the water quality objective is not being violated by the receiving water, the Regional Board may set effluent limitations more stringent than those objectives to reflect "best efforts" by the discharger. The record establishes the need to control the discharge of chloride into the basin, and therefore to require "best efforts" by the City. We must next consider the factors which are relevant in the determination of what effluent limitations constitute "best efforts". The water supply available to the City has a concentration of 118 mg/l chloride. This level is well below the water quality objective of 350 mg/l. The effluent currently discharged from the treatment plant has a mean chloride level of 246 mg/l.[9/] This level is already well under the Basin Plan objective. As noted above, the

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9. Letter from City of Lompoc to the Regional Board, dated January 27, 1981.

City has also taken substantial steps to decrease its contribution to the salt loading problem in the basin by eliminating industrial sources of salts.

Are the additional steps that the City would have to take to meet the effluent limitations established in the waste discharge requirements reasonable under the "best efforts" analysis? By requiring the immediate upgrading of all home water softeners to meet the efficiency rating provided for in Health and Safety Code Section 4048, the City could reduce the level of chloride in its effluent to 202 mg/1.[10/] Only by banning the use of home water softeners could the City meet the mean effluent limitation at 193 mg/1 set forth in the requirements.[11/]

In considering the factors discussed above, we conclude that the Regional Board established limitations too stringent for the discharge of chloride. The steps which the City would have to take to meet those limitations, in light of the water supply available, the current effluent quality and the past good faith efforts by the City, are not adequately justified. We note that the discharger is already discharging effluent at the rate of 246 mg/1 chloride, which is below the water quality objective of 350 mg/1, and that the City has proposed that its mean effluent rate remain close to that figure at 250 mg/1 chloride. We conclude that a mean limitation of 250 mg/1, as requested by the

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10. Item 4A of Regional Board Staff Report at Regional Board meeting on February 8, 1980, Tables 1 and 2.

11. A prohibition on the use of all home water softeners would result in an effluent of 168 mg/1.

City, will provide sufficient protection to the basin. As we stated above, at Number 2.A., the Regional Board may consider making a finding, as set forth in Health and Safety Code Section 4048, that further reduction of salt input to the basin is required.[12]/

We conclude that this portion of the requirements should be remanded to the Regional Board to adopt a mean effluent limitation of 250 mg/l for chloride.

## III. REVIEW OF THE BASIN PLAN

Our review of the issues herein has raised several aspects of the Basin Plan which should be the subject of review by the Regional Board. The Regional Board should review the propriety of the water quality objective for sodium applicable to the discharge by the City of Lompoc. A related point involves a reconsideration of the groundwater quality objectives at the point of the City's discharge. The discharge takes place in the lower reach of the Santa Ynez River, close to the ocean. It may be in the public interest to allow some degradation of the salt content of the groundwater in the upper aquifer at this discharge point as a trade off to gain protection from seawater intrusion. Finally, our evidence shows that the lower aquifer in the groundwater basin has significantly lower levels of salts than the upper aquifer. The Regional Board should ascertain whether there is continuity between the upper and lower aquifers in the area of the City's discharge. If such continuity does exist, the water

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12. Thereafter, the Regional Board could amend the requirements to establish a more stringent chloride limitation.

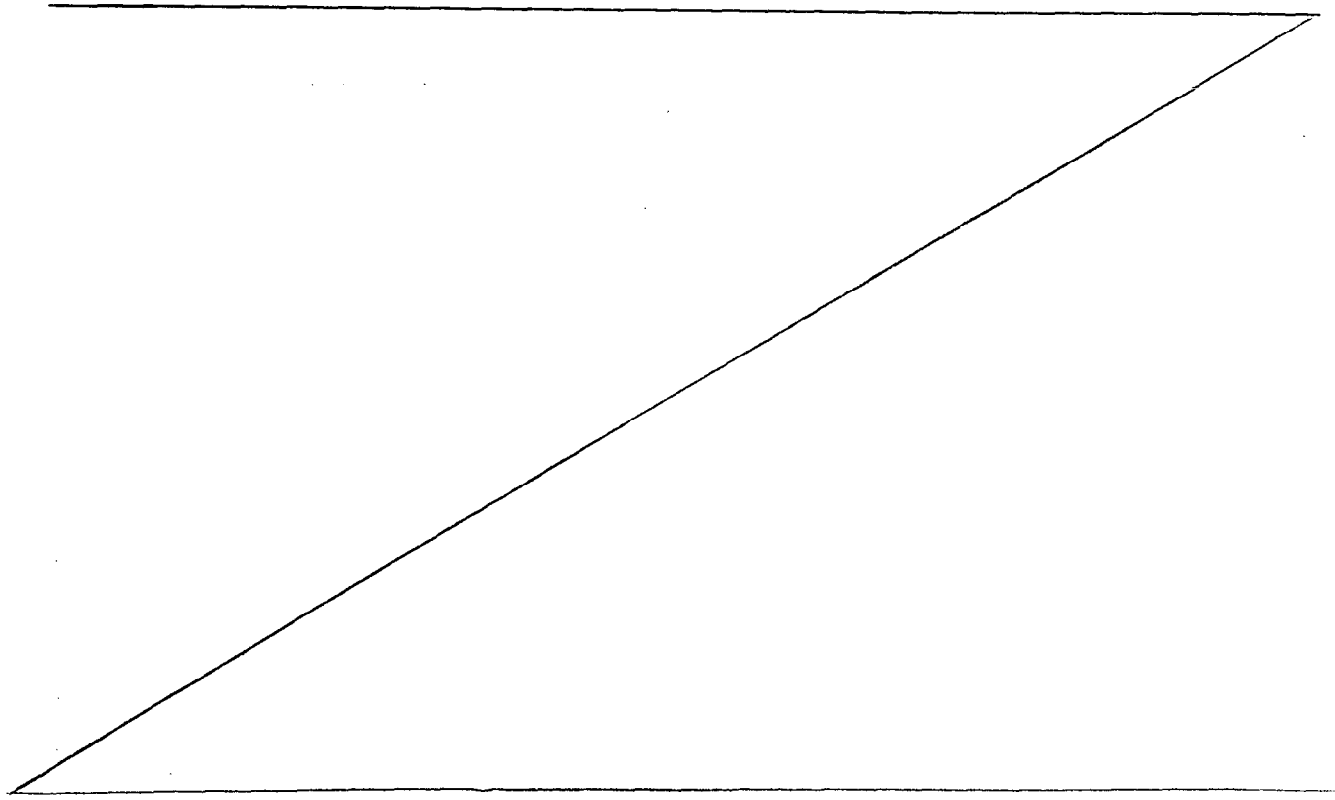
quality objectives in the Basin Plan should be expanded to cover the lower aquifer. By setting separate objectives for the lower aquifer, the quality of that groundwater may be protected.

## IV. ORDER

1. IT IS HEREBY ORDERED that, for the reasons discussed above, the NPDES permit for the City of Lompoc is remanded to the Regional Board for the following revisions:

Discharge of effluent containing constituent concentrations in excess of the following is prohibited:

| Constituent | Units | Mean |
|---|---|---|
| Total Dissolved Solids | mg/l | 1100 |
| Sodium | mg/l | 250 |
| Chloride | mg/l | 250 |



2. IT IS FURTHER ORDERED that, for the reasons discussed above, the NPDES permit for the City of Lompoc is remanded to the Regional Board for further consideration of the effluent limitations for the constituent sodium. In undertaking such reconsideration, the Regional Board is ordered to review the water quality objective established in the Basin Plan for that constituent.

In all other respects, the petition is denied.

DATED: March 19, 1981

Carla M. Bard, Chairwoman

L. L. Mitchell, Vice-Chairman

Jill B. Dunlap, Member

Absent

F. K. Aljibury, Member

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Finding: It is, of course, up to the discharger to decide the manner in which compliance with requirements will be achieved. There is not sufficient evidence in the record to permit a conclusion that the only available means to comply with the limitations is to prohibit the use of water softeners. Even assuming such a prohibition would be necessary, we do not agree that the petitioner is without authority to regulate the use of water softeners.

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1. The Regional Board may set limitations less stringent than the water quality objective by adding an increment to the objective to reflect reasonable use of the remaining assimilative capacity. The increment should consider use of the capacity by the discharger and other dischargers. Of greatest importance, however, is that the Regional Board should ensure that the cumulative impact of all dischargers does not result in a situation where the water quality objectives set for the basin are exceeded.

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The reduction will be accomplished in an equitable manner, through the adoption of limitations for which compliance can be reasonably expected.

We now turn to the petitioner's contentions. In establishing effluent limitations for the various constituents, the Regional Board set mean limitations and maximum limitations. The mean limitations consist of an increment over the water supply and the maximum limitations consist of numerical concentrations. The petitioner proposed mean and maximum limitations which are both numerical concentrations. In analyzing the contentions herein, we have calculated the concentration for the water supply and therefore considered only numerical concentrations for the various proposed limitations. Since the limitations which we set forth herein are all presented in terms of their numerical concentrations, we find no need to establish maximum limitations. Because groundwater affords slow mixing of constituents and because one-time discharges of larger concentrations of salts to groundwater do not pose dangers to fish or wildlife, a mean numerical limitation will provide sufficient protection. We therefore conclude that the maximum limitations for the constituents TDS, sodium and chloride should be deleted from the requirements. We note, however, that should the quality of the water supply change significantly, an amendment of the requirements might be necessary.

A. Total Dissolved Solids

As described above, the water quality objective contained in the Basin Plan for TDS is 1500 mg/1. The waste discharge

requirements adopted by the Regional Board establish a mean effluent limitation of the water supply plus 325 mg/1. The petitioner requests a mean limitation of 1200 mg/1. The existing water supply for the areas using the wastewater treatment facility is calculated to have a mean TDS level of 773 mg/1.[4/] Therefore, the mean limitation permitted under the requirements is 1098 mg/1.

The first step in our analysis is to determine whether the level of TDS in the upper aquifer, the receiving water for the discharge, is in excess of the water quality objective. The upper aquifer contains 2660 mg/1 of TDS, well above the water quality objective of 1500 mg/1. There is no evidence of assimilative capacity due to system mixing or removal of the constituent through percolation through the ground to the aquifer. Therefore, the limitation can be set no higher than the water quality objective of 1500 mg/1.

We now turn to the question of whether the limitations can be set at a more stringent standard to require "best efforts" by the petitioner. The record before us establishes the need to control the discharge of TDS in the basin. We next consider what limitation will reflect "best efforts" by the City. The water supply available to the City has a TDS level of 773 mg/1, significantly below the water quality objective. The effluent currently discharged by the City has a mean TDS level of 1090 mg/1. This level is within the limitation proposed by the Regional Board.

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4. Letter from City of Lompoc to the Regional Board, dated January 27, 1981. At the time the requirements were adopted, the Regional Board calculated the water supply to have 750 mg/1 TDS. Item 4A of Regional Board Staff Report at Regional Board meeting on February 8, 1980, Tables 1 and 2.

In reviewing the good faith efforts on the part of the City, we note that evidence in the record discloses that by eliminating industrial sources of salts to the sewer system in 1975, the City accomplished a reduction of 72,000 pounds of salts per month. The result was a lowering of the discharge concentration from 2000 mg/l to the current level. In addition, pursuant to a PUC tariff rule, the Park Water Company is regulating the use of home water softeners in Vandenburg Village. The rule, in effect since October 1977, prohibits the installation of new units and provides that all discharges from home units which discharge to the sewer system are prohibited after July 1, 1982. Since the discharge to the treatment plant from Vandenburg Village is a major contributor to the salt-loading problem, implementation of this rule presumably has been a factor in lessening the concentration of salts in the City's discharge and will continue to alleviate the problem.

In considering the additional measures, if any, which the City should be required to undertake under the "best efforts" analysis, we find it appropriate to consider Health and Safety Code Section 4048, discussed above. That section requires that newly installed residential onsite water softeners must be set at a salt efficiency rating of no less than 2850 grains of hardness removed per pound of salt used in regeneration. This requirement should lead to a further reduction in the salts discharged.

Given the factors discussed--the water supply available to the City, the current effluent quality of the City's discharge, the good faith efforts by the City and the measures necessary to

comply with the requirement--we conclude that the Regional Board acted properly in setting a mean TDS limitation of the water supply plus 325 mg/l, or 1098 mg/l. In reaching this conclusion, we note that while the level of TDS in the water supply is significantly below the water quality objective for TDS, the City has taken steps to reduce greatly its discharge of TDS. The level of discharge currently, approximately 1090 mg/l, is within the limitation set by the Regional Board. We note further that while the Regional Board could make a finding of necessity for imposing stricter standards on existing water softeners in order to reduce further the problem of salt loading in the basin, the problem is not so drastic as to require the immediate adjustment of all existing softeners. We will, therefore, approve this portion of the requirements with one modification. To ensure the continued quality of the discharge, we shall require that the mean limitation for TDS be expressed as 1100 mg/l, rather than the water supply plus 325 mg/l.

The Regional Board may, of course, consider the propriety of making a finding, as set forth in Health and Safety Code Section 4048, that further reduction of salt input to the basin is required. Upon making such a finding, it would be appropriate to amend the requirements to establish a more stringent TDS limitation after an appropriate implementation period.

B. Sodium

The water quality objective in the Basin Plan for sodium is 250 mg/l. The waste discharge requirements adopted by the Regional Board establish a mean effluent limitation of the water

supply plus 75 mg/l. The petitioner requests a mean limitation of 325 mg/l. The Regional Board has calculated that the existing water supply for the areas using the wastewater treatment facility has a mean sodium concentration of 154 mg/l.[5/] The mean limitation established by the requirements is therefore 229 mg/l sodium.

The concentration of sodium in the upper aquifer, which is the receiving water for the discharge, is 270 mg/l. Thus, the water quality objective of 250 mg/l for sodium is being exceeded. There is also no evidence in the record of assimilative capacity due to system mixing or removal of the constituent through percolation. The water quality objective of 250 mg/l therefore establishes the maximum effluent limitation which should be applied to sodium. In considering the available evidence, however, it appears that only by extreme measures could the City meet even this maximum limitation. The current discharge level from the treatment plant has a mean concentration of 283 mg/l sodium.[6/] Only by implementation of a ban on the use of home softeners could the water quality objective be met, according to the evidence before us.[7/]

We are concerned with the issue of whether the efforts necessary to implement the sodium objective are out of proportion to the benefits obtained thereby. Because of the scarcity of evidence in the record regarding other control methods which might be available to the City for the discharge of sodium, the questionable

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5. Item 4A of the Regional Board Staff Report at Regional Board meeting on February 8, 1980, Tables 1 and 2.

6. Letter from City of Lompoc to the Regional Board, dated January 27, 1981.

7. Our calculations indicate that a total ban on the use of home water softeners would result in an effluent concentration of 235 mg/l sodium.

need for a water quality objective which is so much more stringent than the current discharge rate, and the drastic measure it appears would be required to meet compliance, we remand this portion of the requirements to the Regional Board. In its review, the Regional Board should evaluate the continuing need for the water quality objective for sodium set forth in the Basin Plan for the Lompoc area. The Regional Board should then undertake the analysis described herein, at pages 6-7, to determine whether the effluent limitations contained in the waste discharge requirements, or some other limitations, are appropriate. We wish to make it clear that we are not rejecting the effluent limitations which the Regional Board set for sodium. Rather, we are requesting that more study be made of the matter. In the interim, the Basin Plan objective of 250 mg/1 sodium shall apply.

C. Chloride

The water quality objective contained in the Basin Plan for chloride is 350 mg/1. The waste discharge requirements adopted by the Regional Board set a mean effluent limitation at the water supply plus 75 mg/1. The petitioner requests a mean limitation of 250 mg/1. The existing water supply for the areas using the treatment plant is calculated to have a mean sodium concentration of 118 mg/1.[8/] Therefore, the mean limitation permitted under the requirements is 193 mg/1 chloride.

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8. Letter from City of Lompoc to the Regional Board, dated January 27, 1981. At the time the requirements were adopted, the Regional Board calculated the water supply to have 114 mg/1 chloride. Item 4A of Regional Board Staff Report at Regional Board meeting on February 8, 1980, Tables 1 and 2.

The concentration of chloride in the receiving water, the upper aquifer, is 320 mg/1. This level is below the water quality objective of 350 mg/1 called for in the Basin Plan. Therefore, the Regional Board could have set limitations less stringent than the Basin Plan objective of 350 mg/1, to allow for reasonable use of the remaining assimilative capacity. The record does not indicate whether the Regional Board considered a less stringent limitation allowing for reasonable use. However, since a salt loading problem does exist in the basin, and because the City has been able to achieve a current discharge rate which is below the water quality objective, we find no error in the Regional Board's failure to consider this factor.

Even where the water quality objective is not being violated by the receiving water, the Regional Board may set effluent limitations more stringent than those objectives to reflect "best efforts" by the discharger. The record establishes the need to control the discharge of chloride into the basin, and therefore to require "best efforts" by the City. We must next consider the factors which are relevant in the determination of what effluent limitations constitute "best efforts". The water supply available to the City has a concentration of 118 mg/1 chloride. This level is well below the water quality objective of 350 mg/1. The effluent currently discharged from the treatment plant has a mean chloride level of 246 mg/1.[9/] This level is already well under the Basin Plan objective. As noted above, the

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9. Letter from City of Lompoc to the Regional Board, dated January 27, 1981.

City has also taken substantial steps to decrease its contribution to the salt loading problem in the basin by eliminating industrial sources of salts.

Are the additional steps that the City would have to take to meet the effluent limitations established in the waste discharge requirements reasonable under the "best efforts" analysis? By requiring the immediate upgrading of all home water softeners to meet the efficiency rating provided for in Health and Safety Code Section 4048, the City could reduce the level of chloride in its effluent to 202 mg/l.[10/] Only by banning the use of home water softeners could the City meet the mean effluent limitation at 193 mg/l set forth in the requirements.[11/]

In considering the factors discussed above, we conclude that the Regional Board established limitations too stringent for the discharge of chloride. The steps which the City would have to take to meet those limitations, in light of the water supply available, the current effluent quality and the past good faith efforts by the City, are not adequately justified. We note that the discharger is already discharging effluent at the rate of 246 mg/l chloride, which is below the water quality objective of 350 mg/l, and that the City has proposed that its mean effluent rate remain close to that figure at 250 mg/l chloride. We conclude that a mean limitation of 250 mg/l, as requested by the

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10. Item 4A of Regional Board Staff Report at Regional Board meeting on February 8, 1980, Tables 1 and 2.

11. A prohibition on the use of all home water softeners would result in an effluent of 168 mg/l.

City, will provide sufficient protection to the basin. As we stated above, at Number 2.A., the Regional Board may consider making a finding, as set forth in Health and Safety Code Section 4048, that further reduction of salt input to the basin is required.[12/]

We conclude that this portion of the requirements should be remanded to the Regional Board to adopt a mean effluent limitation of 250 mg/l for chloride.

## III. REVIEW OF THE BASIN PLAN

Our review of the issues herein has raised several aspects of the Basin Plan which should be the subject of review by the Regional Board. The Regional Board should review the propriety of the water quality objective for sodium applicable to the discharge by the City of Lompoc. A related point involves a reconsideration of the groundwater quality objectives at the point of the City's discharge. The discharge takes place in the lower reach of the Santa Ynez River, close to the ocean. It may be in the public interest to allow some degradation of the salt content of the groundwater in the upper aquifer at this discharge point as a trade off to gain protection from seawater intrusion. Finally, our evidence shows that the lower aquifer in the groundwater basin has significantly lower levels of salts than the upper aquifer. The Regional Board should ascertain whether there is continuity between the upper and lower aquifers in the area of the City's discharge. If such continuity does exist, the water

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12. Thereafter, the Regional Board could amend the requirements to establish a more stringent chloride limitation.

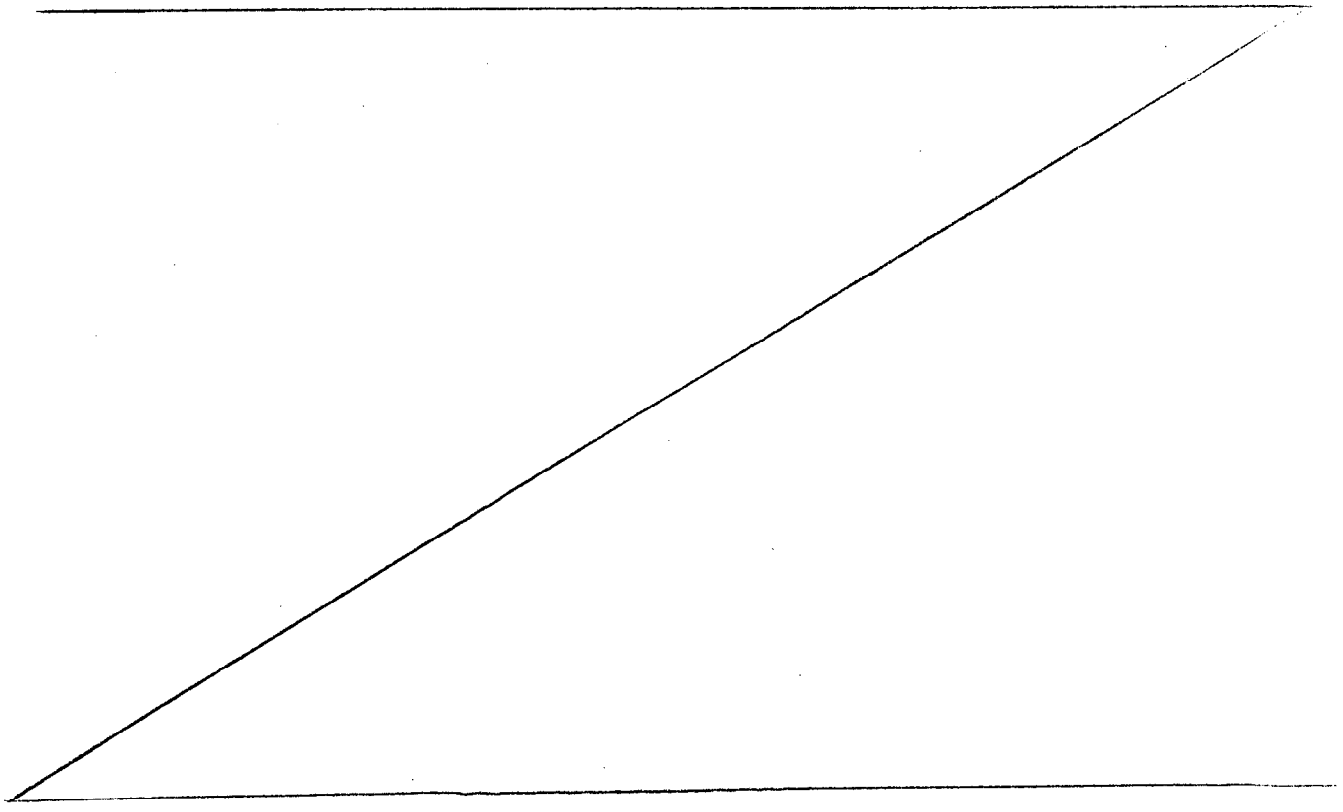
quality objectives in the Basin Plan should be expanded to cover the lower aquifer. By setting separate objectives for the lower aquifer, the quality of that groundwater may be protected.

## IV. ORDER

1. IT IS HEREBY ORDERED that, for the reasons discussed above, the NPDES permit for the City of Lompoc is remanded to the Regional Board for the following revisions:

Discharge of effluent containing constituent concentrations in excess of the following is prohibited:

| Constituent | Units | Mean |
|---|---|---|
| Total Dissolved Solids | mg/l | 1100 |
| Sodium | mg/l | 250 |
| Chloride | mg/l | 250 |



2. IT IS FURTHER ORDERED that, for the reasons discussed above, the NPDES permit for the City of Lompoc is remanded to the Regional Board for further consideration of the effluent limitations for the constituent sodium. In undertaking such reconsideration, the Regional Board is ordered to review the water quality objective established in the Basin Plan for that constituent.

In all other respects, the petition is denied.

DATED: March 19, 1981

Carla M. Bard, Chairwoman

L. L. Mitchell, Vice-Chairman

Jill B. Dunlap, Member

Absent

F. K. Aljibury, Member